الملخص العربي:

الانحرافات التركيبية وترجمة "الترابك الدالة على المفعول الناجم" من الإنجليزية إلى العربية

الهدف الأساسي من هذه الدراسة هو البحث في علاقة مفهوم "الانحراف التركيبي" وترجمة "الترابك الدالة على المفعول الناجم" من الإنجليزية إلى العربية، حيث تم تصنيف هذه الترابك إلى أربعة أنماط هي: الترابك المتصلة إلى فعل متحدد وස嚏 سابع السمدة إلى فعل متاح لفظيا وسائر السمدة إلى الفعل متعلقًا و낀اء السمدة إلى الفعل الوسطي

Unergative و中介机构، و中介机构 "لا أرجية".

وقد كشفت الدراسة أن عملية الانحرافات التركيبية المتضمنة في ترجمة هذه الترابك تظهر من خلال ثلاثة آليات لغوية أطلقت عليها: "التحويل" و"الإضافة" و"الاختزال"، و"التحويل" و"الإضافة" و"الاختزال". تبين كذلك أن القاسم المشترك اللغوي بين هذه الآليات الثلاث هو استخدام صيغة الفعل أو مصدر في الترجمة العربية بدلاً من "النتيجة الناجمة" ومكان استخدام صيغة المصدر بدلاً من الأنحاء الوسطية أو "لا أرجية".

كما كشفت الدراسة عن أن الانحرافات التركيبية المتضمنة في ترجمة الترابك المتصلة إلى الفعل المتاح لفظيا و"لا أرجية" علية من ذلك المتضمن في ترجمة الترابك المتصلة إلى الفعل متاح لفظيا أو أفعال المطوية، وقد يرجع ذلك إلى أن النوع الأول من هذه الترابك غير شائع في العربية وعليه فإن نظر إلى اللغة الهندية (اللغة الأصلية) يستلزم بالضرورة قياسًا من الانحرافات التركيبية عن اللغة المصدر (الإنجليزية)، وأخيرًا يمكن لناحية هذه الدراسة أن تكون مفيدة في إعداد قواعد البيانات اللازمة لبرامج الترجمة الآلية من الإنجليزية إلى العربية.


8. References


Appendix 2: Abbreviations used in the study

Acc. Accusative Case
Fem. feminine
Gen. Genitive Case
Indic. Indicative mood
Masc. Masculine
MT Machine Translation
Nom. Nominative Case
NP Noun Phrase
P Preposition
PP Prepositional Phrase
SL Source Language
Sub. Subjunctive mood
TL Target Language
UH Unaccusative Hypothesis.
provide useful guidelines for the construction of a database for English/Arabic MT programs.

7. Appendices

Appendix 1: The symbols used to represent the Arabic data are listed below with their corresponding Arabic graphemes. Consonant gemination and vowel lengthening are represented by doubling the respective consonant or vowel.

- [b] Voiced bilabial stop ...........................................
- [t] Voiceless dento-alveolar stop ................................
- [T] Voiceless dento-alveolar emphatic stop ....................
- [d] Voiced dento-alveolar stop ....................................
- [D] Voiced dento-alveolar emphatic stop .........................
- [k] Voiceless velar stop ............................................
- [q] Voiceless uvular stop ...........................................
- [ʔ] Voiceless glottal stop ...........................................
- [j] Voiced alveo-palatal affricate ................................
- [H] Voiceless pharyngeal fricative ..............................
- [ʕ] Voiced pharyngeal fricative ..................................
- [f] Voiceless labio-dental fricative ..............................
- [θ] Voiceless dental fricative ......................................
- [d] Voiced dental fricative ........................................
- [d] Voiced dental emphatic fricative ............................
- [s] Voiceless dento-alveolar fricative ...........................
- [S] Voiceless dento-alveolar emphatic fricative ..............
- [z] Voiced dento-alveolar fricative .............................
- [ʃ] Voiceless alveo-palatal fricative ............................

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unaccusative verbs have Arabic counterparts, the other two types (i.e. resultatives based on middles and resultatives based on unergatives) are not common constructions in Arabic. It has been shown that Arabic does not even allow for such constructions.

On the basis of these findings, it has been shown that the translation of the different types of the English resultatives into Arabic involves different degrees of structural divergences. Precisely, I have illustrated that the translation of the resultatives based on middles and unergatives exhibits great structural divergence, while the translation of the resultatives based on transitive verbs and unaccusative verbs exhibits a less degree of structural divergence. This might be attributed to the fact that the resultatives based on middles and those based on unergatives do not have Arabic structural equivalences and, consequently, great structural divergence is inevitable.

The findings have also shown that structural divergence involved in the translation of the English resultatives into Arabic manifests itself in three main ways: category 'transformation', 'insertion' of new elements in the TL and the 'suppression' of certain elements of the SL. It has also been shown that the structural devices employed for the translation of the four types of the English resultatives into Arabic exhibit some linguistic properties in common. These properties include the incorporation of the Arabic verb or the verbal noun that corresponds to the English resultative adjective, the incorporation of the Arabic verbal noun that corresponds to the English middle verb and the incorporation of the Arabic verbal noun that corresponds to the English unergative verb. Finally, as far as the data and the conclusions are concerned, the findings of this study could
this unergative resultative construction The audience laughed him off the stage to its Arabic translation tarka lmasraHa min jarraa?i DaHiki ljumhuuri, we notice that the two constructions are dramatically different both lexically and structurally. This dramatic difference might be attributed to the fact that Arabic does not allow for the resultative constructions that are based on unergative verbs. Hence, the translation of this type of resultatives into Arabic requires alternative constructions where the lexical items and the structural relations that hold among them are completely different from their counterparts in the SL. Thus, in order to convey the meaning expressed by these constructions into Arabic, a high degree of structural divergence is unavoidable.

6. Summary and Conclusion

This study is an attempt to illustrate the relevance of the notion of structural divergence to the translation of the English resultatives into Arabic. Drawing on the studies carried out on the English resultatives (e.g. Gorlach 2004, Boas 2003, Levin & Hovav 2001, Cormack & Smith 1999, and Levin & Hovav 1995), I have presented a typology of the English resultatives. On the basis of this typology, four types of these constructions were investigated: resultatives based on transitive verbs, resultatives based on unaccusative verbs, resultatives based on middle verbs and resultatives based on unergative verbs.

In Arabic, on the other hand, according to the sources I have consulted (e.g. Sibawayah 1982, Hasan 1905, Saad 1982), resultative constructions are not common. However, the findings of this study have shown that certain instances of the English resultative constructions have structural equivalents in Arabic, while others do not. Specifically, while some instances of the English resultatives based on transitive verbs and those based on
d. English: He worked himself exhausted.
   Arabic: ?urhiqa mina l’amali
         got-exhausted due to working-Gen.

c. English: The audience laughed him off the stage.
   Arabic: tarka lmasraHa min jarra?i DaHiki
         left-he the-stage-Acc. due to-Gen. laughing-Gen.
         ljumhuuri
         the-audience-Gen.

Given the Arabic translations stated in (35), it is obvious that the notion of structural divergence manifests itself through three different structural devices. I will call the first device ‘category transformation’, the second ‘insertion’ of new elements in the TL and the third ‘suppression’ of certain elements of the SL:

36.a. Category Transformation:
   - Resultative Adjective in SL ———> Verb in TL
   - Unergative Verb in SL ———> Arabic Verbal Noun

b. Insertion:
   - The Arabic preposition min (literally ‘from’), which has a resultative implication.
   - The Arabic phrase min jarra?i ‘as a result of’

c. Suppression:
   - Suppression of the English reflexive pronoun.

Thus, compared to the other types of resultatives discussed in this study, the translation of the unergative resultatives into Arabic seems to involve the highest degree of structural divergence. As illustrated in (35.e), for instance, if we compare
34. a. English: He worked himself sick.
   Arabic: *?ishtaghala/'amila binafsihi mariiDan
b. English: He read himself to sleep.
   Arabic: *qara?a binafsihi linnawmi
c. English: He laughed himself silly.
   Arabic: *DaHika binafsihi ?ablahan
d. English: He studied himself pale.
   Arabic: *darasa binafsihi shaaHiban
e. English: He worked himself exhausted.
   Arabic: *?ishtaghala/'amila binafsihi munhakan
f. English: He shouted himself hoarse.
   Arabic: *SaHa binafsihi ?ajashshan

Obviously, the Arabic structural equivalents given above are not only unacceptable translations, but they are also ungrammatical constructions. To handle this problem, Arabic alternative constructions are proposed below as translation equivalences of these English unergative resultatives:

35.a English: He shouted himself hoarse.
   Arabic: buHHa SawtuHu mina SsiyaaHi
          got-hoarse voice-his due to the-shouting-Gen.

b. English: He walked his feet sore

   Arabic: ta?allamat qadamaahu mina lmashyi
          got-sore his-feet-Nom. due to walking-Gen

c. English: He worked himself sick.
   Arabic: ?aSaabahu lmaraDu min l'amali
          got-sick-he due to working-Gen.

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subject. Thus, the basic meaning of this type of resultatives is that the subject is modified by the resultative phrase as a consequence of the action depicted by the unergative verb. (For more details in this regard, see Levin and Hovav 1995: 35)

It is interesting to note that the meaning expressed by this type of resultatives is not possible without the reflexive pronoun. Hence, the following resultatives are unacceptable:

32.a. *John laughed silly.
   b. *John worked sick.
   c. *John worked exhausted.
   d. *John shouted hoarse.
   e. *John yelled hoarse. (Adapted from Levin & Hovav 1995: 36)

Similarly, in this type of resultatives, unergative verbs cannot be followed by a reflexive pronoun in the absence of a following resultative phrase. Hence, the following resultatives are unacceptable:

33.a. *John laughed himself.
   b. *John worked himself.
   c. *John worked himself.
   d. *John shouted himself.
   e. *John yelled himself. (Adapted from Levin & Hovav 1995: 36)

The translation of this type of resultatives into Arabic seems to involve a high degree of structural divergence. As illustrated below, an Arabic structural equivalent that preserves the structure of this type of resultatives does not lead to acceptable translation. Consider the English unergative resultatives below and the Arabic structural equivalents that follow:

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agentive in the sense that it undergoes the action depicted by the verb.

The following examples of the English resultatives that are based on unergative verbs are adapted from Levin and Hovav (1995):

31.a. He worked himself sick.
   b. He worked himself exhausted.
   c. He walked his feet sore.
   d. He shouted himself hoarse.
   e. He yelled himself hoarse.
   f. He laughed himself silly.
   g. He slept himself sober.
   h. He talked himself blue in the face.
   i. John read himself to sleep.
   j. John studied himself into a pale ghost.
   k. The audience laughed him off the stage.

(It should be pointed out that the English variety used in this study is the American Variety, and the informants consulted for the acceptability of certain resultative constructions are linguists and native speakers of American English.)

It is noted in these constructions that the verb is consistently followed by a reflexive pronoun, which is in turn followed by a resultative phrase. The state denoted by the resultative phrase holds of the reflexive pronoun as a result of the action denoted by the verb. In other words, as Simpson (1983) points out, the reflexive pronoun in these constructions could be viewed as a syntactic device for allowing a resultative phrase to be interpreted as if it were predicated of the subject of the unergative verb. Hence, the resultative phrase is predicated of the reflexive pronoun, which is itself coreferential with the
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Arabic: haada ssaa?ilu mina asshli
tajamiiduhu
this-Masc. liquid-Nom. from the-easy-Gen.
freezing-Nom.-it
liyuSbiHa Salban
to become-Sub. solid-Acc.

d. English: This table wipes clean easily.
Arabic: haadihi TTawi latu mina asshli tandiifuhaa
this-Fem.the-table-Nom. from the-easy-
Gen.cleaning-Nom.-it
bilmasHi
by-wiping-Gen.

On the basis of the examples discussed in this section, the structural divergences involved in the translation of the middle resultatives into Arabic may be illustrated as follows:

a. Middle verb in SL \[\rightarrow\] \(P + \text{Verbal noun (or ?aSbaHa 'to become') in TL}\)

b. Resultative adjective in SL \[\rightarrow\] \(\text{Verbal noun in TL}\)

5.4. English Resultatives Based on Unergative Verbs

As pointed out in Section 4.2, the term 'unergative' is used here according to the UH proposed by Perlmutter (1978). Specifically, following the UH, intransitive verbs may be classified into the unergative class (e.g. work, cry, sleep, stand, walk, laugh and ran) and the unaccusative class (e.g. cut, open, break, melt, freeze, burn and close). The subject of the unergative class is agentive in the sense that it causes the action depicted by the verb, whereas the subject of the unaccusative class is non-
this-Masc. the-meat-Nom. cut-Indic. to pieces-Gen.
Saghiiratin bisahuulatin small-Gen. easily-Gen.

c. English: This glass breaks into pieces easily.
Arabic: * haada zzujaaju yaksiru li?ajzaa?in
this-Masc. the-glass-Nom. break-Indic. to pieces-Gen.
bisahuulatin easily-Gen.

Obviously, the Arabic translations given above are not only unacceptable, but they are also ungrammatical. To handle this problem, Arabic alternative constructions that involve great structural divergence are proposed as translation equivalences of these English resultatives based on middles:

29.a. English: This meat cuts into pieces easily.
Arabic: haada llaHmu mina asshli taqTTi’uahu this-Masc. meat-Nom. from the-easy-Gen. cutting-Nom.-it

b. English: This glass breaks into pieces easily.
Arabic: haada zzujaaju mina asshli taksiruahu this-Masc. glass-Nom. from the-easy-Gen. breaking-Nom.-it

c. English: This liquid freezes solid easily.

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nominalizations. According to Carrier and Randall (1992), the postverbal NP in a resultative construction based on a transitive verb can be externalized by middle formation. This process results in this type of resultatives that are based on middle verbs. Examples of the English resultatives based on middle verbs are given below:

27.a. This table wipes clean easily.
   b. It pushes open easily.
   c. This metal pounds flat easily.
   d. The river freezes solid easily
   e. The bottle breaks open easily.
   f. This door pushes shut easily.

(For more details on the English resultatives based on middle verbs, see Levin and Hovav 1995:43-48)

The translation of this type of resultatives into Arabic seems to involve a higher degree of structural divergence. As illustrated below, an Arabic structural equivalent that preserves the structure of this type of resultatives does not lead to acceptable translation. Consider the following English resultatives and their Arabic structural equivalents:

28.a. English: This table wipes clean easily.
   Arabic: * haadihi TTawilatu tamsaHu nadjifatan
            this-Fem.      the-table-Nom.    wipe-
            Indic.clean-Acc.
            bisahuulatin
            easily-Gen.

   b. English: This meat cuts into small pieces easily.
   Arabic: * haada ilaHmu yaqTa'u
           li?ajzaa?in

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pulled-he the-door-Acc. so-it-opened

26.a. Resultative adjective in SL -> Verb(or
?aSbaHa ‘to
become’ +
adjective) in
TL
26.b. Resultative PP in SL -> NP in
TL

5.3. English Resultatives Based on Middle Verbs

Unlike unaccusative verbs, middle verbs are noneventive in the sense that the action depicted by these verbs expresses a state. This means that, despite the fact that the English middles are verbs, they express a state or a property of the subject rather than an event. In fact, Roberts (1987) analyzes the middle formation in English as a process of “stativization”. This analysis of middle verbs as stative verbs is consistent with the observation that these middles always occur in the present simple and they require an adverbial expression such as easily and fast. (For details on the contrast between the middles and the unaccusatives in Arabic, see Mahmoud 1991).

Carrier and Randall (1992) examine the behavior of postverbal NP in middle constructions, adjectival passives, and...
23. a. He cut it into pieces.
   b. He broke the glass into pieces.
   c. The prisoners froze to death.
   d. The gate swung shut.
   e. He (kicked/pushed)the door (open/shut).
   f. He pounded the metal flat.
   g. He pushed the door open
   h. The water froze solid

As illustrated below, when resultatives are based on unaccusative verbs, it is possible to map some of them with their Arabic structural equivalents. Hence, the translation of these resultatives into Arabic can be carried out without much structural divergence. Consider, for instance, the following examples:

24.a. English: I cut it into fragments.
       Arabic: qaTTa’tuhaa  ?iraban
                I-cut-it  (into) fragments-Acc.

b. English: They froze to death.
       Arabic:  tajammaduu Hatta  lmawti
               Froze-they to  the-death

However, the translation of other instances of this type of resultatives into Arabic seems to involve a higher degree of structural divergence.

25.a. English: He pushed the door open.
       Arabic: dafa’a  lbaaba  fanfataH
                pushed-he  the-door-Acc.  so-it-opened

b. English: He pulled the door open.
       Arabic: saHaba  lbaaba  fanfataH

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TL. Consider, for instance, the Arabic translation of the English resultative construction below where the Arabic NP *lawnan* 'color' should be inserted.

21. English: They painted the door green,

Arabic: dahanu lbaaba lawnan ?axDara
painted-they the-door-Acc. color-Acc. green-
Acc.

Thus, based on the data discussed in this section, the structural divergences involved in the translation of this type of resultatives into Arabic may be illustrated as follows:

22.a. Resultative adjective in SL  \[\rightarrow\] Verb in TL
b. Resultative PP in SL  \[\rightarrow\] NP in TL

5.2. English Resultatives Based on Unaccusative Verbs

The term 'unaccusative' is used here in the sense adopted by Perlmutter (1978) through what he calls the Unaccusative Hypothesis (UH). According to the UH proposed by Perlmutter, intransitive verbs do not constitute a homogenous class of verbs. Rather, they may be classified into two classes: the unaccusative class (e.g. *cut*, *open*, *break*, *melt*, *freeze*, *burn* and *close*) and the unergative class (e.g. *work*, *cry*, *sleep*, *stand*, *walk*, *laugh* and *run*). The essence of this distinction is based on the nature of the subject of each class. The subject of the unaccusative class is non-agentive in the sense that it undergoes the action depicted by the verb, whereas the subject of the unergative class is agentive in the sense that it causes the action depicted by the verb. The following examples of the English resultatives that are predicated of unaccusative verbs are adapted from Levin (1993) and Levin and Hovav (1995):
18. a. They shot him dead.
    b. They wove the threads into material
    c. John shook Mary awake.
    d. John hammered the metal flat
    e. John loaded the truck full.
    f. John zipped the bag shut.
    g. John Sprinkled the tulips wet.
    h. John painted the door green.
    i. John grew his hair long.

    As illustrated below, when resultatives are based on transitive verbs, it is possible to map some of them with their Arabic structural equivalents. Hence, the translation of these resultatives into Arabic can be carried out without much structural divergence. For instance, consider the following Arabic translation of the English resultatives of this type:

19. English: They shot him dead
    Arabic: ?ardawhu qatiilan
            they-shot-him    dead-Acc.

    The translation of other instances of this type of resultatives, however, may involve some degree of structural divergence. For instance, in the following example the underlined resultative PP in the SL changes into the underlined NP in the TL:

20. English: They wove the threads into material
    Arabic: nasaju lxuyuTa qumaashan
            They-wove the-threads- Acc. (into) material-Acc.

    In other instances of this type of resultatives, structural divergence manifests itself through the insertion of an NP in the
will be proposed. I will characterize the exact devices of structural divergence involved in the translation of these types of English resultatives into Arabic. Variations among these types of resultatives regarding structural divergences will also be investigated. The Arabic structural alternatives that may be considered as translational equivalences of these resultatives will also be investigated.

## 5. The Translatability of the English Resultatives into Arabic

In this section, I will attempt to characterize the relevance of the notion of structural divergence to the translatability of the different types of English resultatives into Arabic. To achieve this objective, a typology of the English resultatives is needed. Drawing on the studies carried out by Gorlach (2004), Boas (2003), Levin and Hovav (2001), Cormack and Smith (1999), Levin and Hovav (1995), Levin (1993), Carrier and Randall (1992) and Simpson (1983), I will present a typology of the English resultative constructions. On the basis of this typology, I will attempt to explain how the translation of different types of English resultatives may involve different degrees of structural divergences. As illustrated below, the typology of the English resultatives comprises four types of resultatives: resultatives based on transitive verbs, resultatives based on unaccusative verbs, resultatives based on middle verbs and resultatives based on unergative verbs. Each section of the following is concerned with the translatability of one type of these English resultatives.

### 5.1. English Resultatives Based on Transitive Verbs

In this type of resultative constructions, the resultative adjective modifies an object of a transitive verb. Thus, as illustrated in the constructions below, adjectives that occur at the end of the sentences consistently modify the preceding nouns. The following are examples of this type of resultatives:
15. He read himself to sleep.

*qara?a  binafsihi  linnawmi
resd-he  himself  to-sleep-Gen.
(On the interpretation ‘He fell asleep as a result of reading.’)

16. He laughed himself silly.

*DaHika binafsihi  ?ablahan
laughed-he  himself  silly-Acc.
(On the interpretation ‘He looked silly as a result of laughing.’)

17. He studied himself pale.

*darasa  binafsihi  shaHaHiban
studied-he  himself  pale-Acc.
(On the interpretation ‘He became pale as a result of studying.’)

Thus, based on the data presented so far, it seems that certain instances of the English resultative constructions may have structural equivalents in Arabic, while others do not. In other words, the translatability of certain English resultative constructions into Arabic is structurally possible, whereas other instances of the English resultatives seem to be structurally untranslatable into Arabic. This implies that the degree of structural divergence involved in the translation of the English resultatives into Arabic is different in different English resultatives.

The main objective of this study is to investigate the relevance of the notion of structural divergence to the translation of the English resultatives into Arabic. As illustrated in Section 5, a typology of the different types of the English resultatives...
‘He shot him dead.’

10. taHaTTama zujuaaju ?iraban
broke (Intrans.) the-glass (into) tiny pieces- Acc.
‘The glass broke into pieces.’

However, other instances of the English resultative constructions do not have structural equivalents in Arabic and therefore seem to be structurally untranslatable into Arabic. Consider the English examples below and the Arabic literal translations that follow:

11. He pulled the door open.
   *saHaBa Ibaaba maftuuHan
   pulled-he the-door-Acc. open-Acc.
   (On the interpretation ‘The door was opened as a result of pulling it’)

12. He pushed the door open.
   *dafa’a Ibaaba maftuuHan
   pushed-he the-door-Acc. open-Acc.
   (On the interpretation ‘The door was opened as a result of pushing it.’)

13. He worked himself sick.
    *’amelala binafshihi mariiDan
    worked-he himself sick-Acc.
    (On the interpretation ‘He became sick as a result of working.’)

14. He shouted himself hoarse.
    *SaaHa binafshihi ?ajashshan
    shouted-he himself hoarse - Acc.
4. Resultatives in Arabic

Based on my understanding of the syntax and the semantics of the English resultatives, the closest Arabic term I would propose as an equivalent of the term ‘resultative predicate’ is this term: $maf^\text{uulun naatij}$ ‘resultative object’. On the basis of the Arabic linguistics sources I have consulted (e.g. Naasif et al. 1997, Sibawayah 1982, Hasan 1996, Saad 1982, and Hassan 1979), the term $maf^\text{uulun naatij}$ ‘resultative object’ does not occur. However, given the syntactic and the semantic properties of the resultative constructions as illustrated by the English examples in Section 2, it seems to me that certain instances of accusative predicates in Arabic such as tamy\text{y}iz ‘differential predicate’, $maf^\text{uul t\text{a}an}$ ‘second object’, $maf^\text{uulun muTlaq}$ ‘cognate object’, $badal$ ‘apposition’ and $Haal$ ‘stative predicate’ are similar to the resultative predicates. However, the investigation of the claim that these Arabic morphosyntactic terms indeed correspond to the English resultatives goes beyond the scope of this paper and will therefore be deferred to another work.

Apart from the issue of terminology, I think it is possible to find certain Arabic constructions that exhibit the basic syntactic and semantic features characteristic of the resultatives given in Section 2. Consider the following examples where the underlined forms correspond to the underlined English resultatives:

8. qaTT\text{a}’tuhaa $\begin{array}{c} \text{?ajzaa?an} \\
\text{I-cut-it} \\
\text{(into) pieces- Acc.}
\end{array}$
‘I cut it \text{into pieces.}’

9. $\begin{array}{c} \text{?ardaahu} \\
\text{he-shot-him}
\end{array}$ $\begin{array}{c} \text{gatiilan} \\
\text{dead-Acc.}
\end{array}$

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generalizations that describe resultative constructions or classes of resultative constructions.” (Boas 2003:136–137),

The basic insight that emerges from work on the resultative constructions is that a resultative phrase may be predicated of the immediately postverbal NP (i.e. the direct object), but may not be predicated of a subject or of an oblique complement. According to Levin and Hovav (1995), this generalization is called the Direct Object Restriction. (For details on the resultative constructions in English and the relevance of the Direct Object Restriction, see Levin and Hovav 1995: 34-45). On the other hand, the relevance of the resultative constructions to the notion of unaccusativity was first pointed out by Simpson (1983) as part of a systematic exploration of the properties of the resultative constructions. A systematic discussion of the resultative constructions with respect to a variety of verb classes is found in the work of Carrier & Randall (1992) and Levin (1993). Snyder (2005) provided a typology of resultatives indicating the frequency of resultatives in a sample of the world languages. According to Snyder (2005), languages that allow for resultatives are listed in (7.a), while those that do not allow for resultatives are given in (7.b)

     b. Hebrew, Javanese, Basque, Eskimo, French, Spanish, Russian and Serbo-Croatian.

(For more details on the frequency of resultatives in the world languages, see www.Linguistlist.org, Issue 11.2514, Tuesday, November 21, 2005.)
verb (i.e., *John's hammering it*), while (4.b) means that the dishes became dry as a consequence of John's wiping them. It should be pointed out that these constructions do not simply describe the action typically denoted by their verbs. Rather, they describe the bringing about of a state that results from this action. Compare the resultative use of *hammer* and *wipe* in (4) to the simple use of these verbs given in (5):

5. a. John hammered the metal.
   b. John wiped the dishes.

The simple use of *hammer* in (5.a) describes the activity of hammering without specifying whether this activity has a certain effect on the entity denoted by the object; even if it has an effect, the activity depicted by the verb does not specify what that effect is. Similarly, the simple use of *wipe* in (5.b) describes the activity of wiping without specifying whether this activity has a certain effect on the entity denoted by the object.

However, English resultatives cannot be predicated of subjects of transitive verbs. Thus, in the following constructions, the underlined resultative predicate can not be interpreted as a state that results from the action depicted by the verb. Hence, these constructions are unacceptable:

6. a. *John hammered the metal exhausted.
   b. *John watched the Movie sleepy.

3. Resultatives in the Linguistics Literature

As pointed out by Boas (2003), "resultative constructions are very difficult to investigate; hence many generalizations that have been proposed by researchers are not without exceptions. But this should not force us to give up and to not try and find real
divergence and structural divergence. As illustrated in (1), in the case of thematic divergence the thematic role ‘theme’ is associated with the object Mary, but in Spanish it is associated with the subject ‘Maria’. In the case of the promotional divergence, as illustrated in (2), the English adverbial usually is realized in Spanish as the main verb soler ‘to tend’. In the case of structural divergence, as illustrated in (3), the English direct object the house is realized in Spanish as the prepositional phrase en la casa ‘in the house’. (For a lexical semantic basis for these divergences, see Saint- Dizier & Viegas 1995).

This study is confined to one type of cross-linguistic divergences, namely structural divergence. Specifically, this study investigates the relevance of structural divergence to the translation of the English resultative constructions into Arabic. In particular, I will look for any parameter(s) or generalization(s) that might explain why the Arabic translation of certain types of the English resultatives exhibits a high degree of structural divergence, while other English resultatives can be easily mapped with their Arabic structural equivalents.

2. What Are English Resultatives?

English resultative constructions are constructions that contain a resultative phrase denoting the state achieved by the referent of the noun phrase (NP) it is predicated of as a result of the action depicted by the verb. In other words, in these constructions, the verb is followed by an NP and an adjective modifying this NP; the state denoted by the adjective holds of this NP as a result of the action denoted by the verb. Consider the examples below:

4. a. John hammered the metal flat.
   b. John wiped the dishes clean.

The resultative construction given in (4.a) means that the object NP (i.e. the metal) is modified by the resultative adjective (i.e. flat) as a consequence of the action depicted by the
1. Cross-Linguistic Divergences and Translation

One of the most difficult areas for research in machine translation (MT) has to do with the cross-linguistic variations that arise during the mapping between lexical items and constructions in the source language (SL) and the target language (TL). These cross-linguistic variations are known in the computational lexical semantics literature as linguistic 'divergences' (Dorr 1995 and Saint-Dizier & Viegas 1995). For instance, as pointed out by Dorr (1995), there are many cases in which the natural translation of one language into another results in a very different form than that of the original. The following examples are taken from (Dorr 1995) to illustrate what is meant by the cross-linguistic divergences that occur during the process of translation. Consider these examples where English is used as the SL and Spanish as the TL:

1. Thematic divergence:
   English: I like Mary.
   Spanish: Maria me gusta.
   'Mary (to) me pleases.'

2. Promotional divergence:
   English: John usually goes home.
   Spanish: Juan suele ir a casa.
   'John tends to go home.'

3. Structural divergence:
   English: John entered the house.
   Spanish: Juan entro en la casa.
   'John entered in the house.'

(Dorr 1995: 368)

Three types of cross-linguistic divergences are covered in the examples stated above: thematic divergence, promotional
Abstract

The main objective of this study is to investigate the relevance of the notion of structural divergence to the translation of the English resultatives into Arabic. On the basis of a typology of the English resultatives, four types of these constructions have been investigated: resultatives based on transitive verbs, resultatives based on unaccusative verbs, resultatives based on middle verbs and resultatives based on unergative verbs.

The findings of the study have shown that structural divergence manifests itself in three different ways: category "transformation", 'insertion' of new elements in the Target Language (TL) and the 'suppression' of certain elements of the Source Language (SL). The structural devices employed for the translation of the four types of the English resultatives into Arabic exhibit three main linguistic properties in common: the incorporation of the Arabic verb or the verbal noun that corresponds to the English resultative adjective, the incorporation of the Arabic verbal noun that corresponds to the English middle verb and the incorporation of the Arabic verbal noun that corresponds to the English unergative verb.

The findings have also shown that the translation of the resultatives based on middles and unergatives exhibit great structural divergence, while the translation of the resultatives based on transitive verbs and unaccusative verbs exhibit a less degree of structural divergence. This might be attributed to the fact that the resultatives based on middles and unergatives are not common constructions in Arabic. As far as the data and the conclusions of this study are concerned, the findings of this study could provide useful guidelines for the construction of a database for English/Arabic machine translation (MT) programs.
Structural Divergence and the Translation of the English Resultatives into Arabic

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