

9. Arabic Summary

الملخص العربي:

" الانحراف التركيبي" و ترجمة "التراكيب الدالة علي "المفعول الناتج".

من الإنجليزية إلي العربية

الهدف الأساسي من هذه الدراسة هو البحث في علاقة مفهوم "الانحراف التركيبي" Structural Divergence بترجمة "التراكيب الدالة على "المفعول الناتج" Resultative Construction من الإنجليزية إلى العربية ، حيث تم تصنيف هذه التراكيب إلى أربعة أنماط هي: التراكيب المسندة إلى أفعال متعدية و تلك المسندة إلى أفعال المطاوعة و تلك المسندة إلى الأفعال "الوسطية" Middle و تلك المسندة إلى الأفعال "اللا ارجتية" Unergative.

وقد كشف الدراسة أن عملية الانحراف التركيبي المتضمنة في ترجمة

هذه التراكيب تظهر من خلال ثلاث آليات لغوية أطلقت عليها: "التحويل"

Transformation و"الإضافة" Insertion و "الاختزال" Suppression ، وقد تبين كذلك أن القاسم المشترك اللغوي بين هذه الآليات الثلاث هو استخدام صيغة الفعل أو مصدره في الترجمة العربية بدلا من "النتج الناتج" Resultative Adjective وكذلك استخدام صيغة المصدر بدلا من الأفعال الوسطية أو"اللا ارجتية".

كما كشفت الدراسة عن أن الانحراف التركيبي المتضمن في ترجمة التراكيب المسندة إلى الأفعال الوسطية و "اللا ارجتية" اعلى من ذلك المتضمن في ترجمة التراكيب المسندة إلى الأفعال المتعدية أو أفعال المطاوعة، و قد يرجع ذلك إلى أن النوع الأول من هذه التراكيب غير شائع في العربية و عليه فان نقلها إلي اللغة الهدف (العربية) يستلزم بالضرورة مزيدا من الانحراف التركيبي عن اللغة المصدر (الإنجليزية)، و أخيرا يمكن لنتائج هذه الدراسة أن تكون مفيدة في إعداد قواعد البيانات اللازمة لبرامج الترجمة الآلية من الإنجليزية إلي العربية.

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[x]	Voiceless uvular fricative	خ
[gh]	Voiced uvular fricative.....	غ
[h]	Voiceless glottal fricative	هـ
[r]	Voiced alveolar flap/trill (when geminate).....	ر
[l]	Voiced alveolar lateral.....	ل
[m]	Voiced bilabial nasal.....	م
[n]	Voiced alveolar nasal.....	ن
[y]	Voiced palatal glide	ي
[w]	Voiced bilabial round glide.....	و
[I]	High front vowel.....	كسرة
[a]	Low front vowel	فتحة
[u]	High back rounded vowel.....	ضمة

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.....	ب
[t]	Voiceless dento-alveolar stop	ت
[T]	Voiceless dento-alveolar emphatic stop	ط
[d]	Voiced dento-alveolar stop	د
[D]	Voiced dento-alveolar emphatic stop	ض
[k]	Voiceless velar stop	ك
[q]	Voiceless uvular stop	ق
[?]	Voiceless glottal stop	ء
[j]	Voiced alveo-palatal affricate	ج
[H]	Voiceless pharyngeal fricative	ح
[']	Voiced pharyngeal fricative.....	ع
[f]	Voiceless labio-dental fricative	ف
[θ]	Voiceless dental fricative	ث
[ð]	Voiced dental fricative	ذ
[ð̤]	Voiced dental emphatic fricative	ظ
[s]	Voiceless dento-alveolar fricative.	س
[S]	Voiceless dento-alveolar emphatic fricative	ص
[z]	Voiced dento-alveolar fricative.. ..	ز
[sh]	Voiceless alveo-palatal fricative	ش

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. Gorfach 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 1995, 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 jarraa?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 jarraa?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.

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:

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

Arabic: haada ssaʔilu 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 TTawilatu 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:

- ʔ.a. Middle verb in SL → P + Verbal noun (or
 ʔaSbaHa 'to
 become' +
 adjective) in TL
 b. Resultative adjective in SL → 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 assli taqTTi'uhu

this-Masc. meat-Nom. from the-easy-Gen. cutting-
Nom.-it

li?ajzaa?in
into-pieces-Gen.

b. English: This glass breaks into pieces easily.

Arabic: haada zzujaaju mina assli taksiruhu

this-Masc. glass-Nom. from the-easy-Gen. breaking-
Nom.-it

li?ajzaa?in
into-pieces-Gen.

c. English: This liquid freezes solid easily.

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 nađiifatan
 this-Fem. the-table-Nom. wipe-

Indic.clean-Acc.

bisahuulatin
easily-Gen.

b. English: This meat cuts into small pieces easily.

Arabic: * haada llaHmu yaqTa'u
li?ajzaa'in

- pulled-he the-door-Acc. so-it-opened
 c. English: The water froze solid.
 Arabic: tajammadalmaa?u fa?aSbaHa Salban
 froze the-water so-it became-solid-Acc.

Based on the examples discussed in this section, the structural divergences involved in the translation of this type of resultatives into Arabic may be outlined as follows:

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

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 \longrightarrow Verb in TL
b. Resultative PP in SL \longrightarrow 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 lxuyuuTa 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 Gorfach (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:

(On the interpretation 'His voice became hoarse as a result of shouting.')

15. He read himself to sleep.

*qara?a binafsihi linnawmi
read-he himself to-sleep-Gen.

(On the interpretation 'He fell asleep as a result of reading.')

16. He laughed himself silly.

*DaHika binafsihi ?ablaha
laughed-he himself silly-Acc.

(On the interpretation 'He looked silly as a result of laughing.')

17. He studied himself pale.

*darasa binafsihi shaaHiban
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 zzujaaju ?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 lbaaba 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 lbaaba 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 binafsihi mariiDan
worked-he himself sick-Acc.
(On the interpretation 'He became sick as a result of working.')
14. He shouted himself hoarse.
*SaaHa binafsihi ?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'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'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 *tamyiiz* 'differential predicate', *maf'uul θaan* 'second object', *maf'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. qaTTa'tuhaa ?ajzaa'an
I-cut-it (into) pieces- Acc.
'I cut it into pieces.'

9. ?ardaahu qatiilan
he-shot-him dead-Acc.

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 Simposon (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)

7. a. American Sign Language, Hungarian, English, German ,
Japanese, Mandarin and Thai.
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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