Attention to Manner of Motion in Arabic Novels: A Diachronic Study

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Abstract: The objective of this work is to conduct a corpus-based diachronic investigation of lexicalization patterns of motion events as well as attention to manner of motion in Arabic narrative writing. Motivated by the scarcity of research on Arabic motion events, this study aims to identify the main linguistic constructions used to express motion events in Arabic novels and more importantly to investigate whether a shift in manner of motion salience has taken place in the last hundred years. The study draws on Talmy’s framework of satellite-framed versus verb-framed typology of languages and makes use of two literary corpora. Main findings include the identification of six major constructions of motion events and show that while novelists in both time periods make use of similar linguistic constructions, there seems to be a significant shift towards more manner salience in contemporary Arabic novels. This increased attention is reflected in less use of the default manner-of-motion verb, walk, in favour of more expressive manner verbs, a stronger tendency to manner modification with walk and non-manner verbs, and a significantly heavier use of non-verbal modifiers.

Keywords: Arabic, diachronic, manner salience, motion events

1. Introduction

Cross-linguistic variation in the expression of motion has been the focus of abundant research since Talmy (1985) proposed his binary typology of motion event encoding based on lexicalization patterns of motion. According to this typology, languages differ in how they lexicalize the manner and path components in motion descriptions (Talmy 2000). Satellite-framed languages, such as English, Swedish, and Chinese, encode the path of motion outside the nuclear clause in an associated satellite, i.e. “the grammatical category of any constituent other than a nominal complement that is in a sister relation to the verb root” (Talmy 1991: 486). A satellite is normally an adverb (e.g., out in crawl out) or a prepositional phrase (e.g., through the garden in walk through the garden). The expression of path as a separate element makes the main verb slot available for manner encoding (e.g., trot along, hasten back), consequently providing speakers of Satellite-framed languages with a large inventory of manner-of-motion verbs (henceforth, manner verbs). In Verb-framed languages, such as Arabic, French, and Spanish, the path of motion is typically expressed within the verb (e.g., خرج /kharaja/ ‘exit’), while manner, if expressed, is encoded in a subordinate element, such as a prepositional phrase (e.g., خرج بسرعة /kharaja bi-sur’a/ ‘exit in haste’), or an adverbial (e.g., صعد جريا /ṣa’ada jaryan/ ‘ascend running’). Consequently, manner verbs are fewer and less diverse in V-framed languages than in S-framed languages.
According to Talmy (1985; 2000), motion events, or motion of objects through space with respect to other objects, comprise the conceptual components of ‘figure’ (the entity that is moving), ‘path’ (the direction or trajectory of motion), ‘manner’ (including components such as energy, forced motion, furtive motion, rate of motion, motor pattern), and ‘ground’ (landmarks that define the path; e.g., source, goal, medium, etc.). The linguistic realization of these meaning components has been the main concern for researchers responding to Talmy’s work, with particular attention paid to the components of manner and path. Structurally, a motion event can include only path information, as in she went up the steep hillside. In contrast to this unitary motion event, a complex motion event conflates the manner component within the same clause, as in she scrambled up the steep hillside.

Speakers of S-framed and V-framed language types also differ in the attention they pay to manner of motion. Revisiting Talmy’s typology, Slobin (2004) suggested cross-linguistic differences not only in lexicalization patterns and available inventories of manner verbs, but also in salience of manner, placing languages along a continuum that ranges from high-manner salience to low-manner salience. Along similar lines, Verkerk (2013) studied 20 Indo-European languages and placed them on a scale that extends from maximally V-framed to maximally S-framed. In a language that is rich with manner verbs, such as English, speakers are more likely to attend to manner when talking about motion. V-framed language speakers, on the other hand, are less attentive to manner of motion, encoding manner separately only when it is at issue (Özçalışkan and Slobin 2003). A very recent study on motion conceptualization is Riziq and Hamdan (2022) which reexamines Talmy’s (1985) typological classification of motion event constructions using data from Jordanian Arabic (JA It also presents a contrastive account of the lexicalization patterns of JA motion verbs and their counterparts in English. The results do not lend support to Talmy’s typology of motion as the semantic and syntactic behavior of the motion verbs in in both languages seem almost similar despite the claim that each language belongs to a different language type.

Manner salience differs not only across languages, as noted above, but also across genres. In a study of Frog Stories (Berman and Slobin 1994), it was found that V-languages, such as Spanish, French, Italian, Turkish, and Hebrew pay virtually no attention to manner. In these languages, manner was expressed in between 0 to 3 percent of all motion events described. By contrast, manner is more salient in S-languages such as English, Mandarin, and Russian, with instances of manner expression ranging from 32 percent for English to 100 percent for Russian (Slobin 2006). Özçalışkan (2015) explains that speakers of V-languages tend to express path, or direction, in the main verb and have thus to rely on subordinate manner of motion verbs or adjunct manner expressions to encode manner of motion. Either of these two additional clause elements, Özçalışkan and Slobin (2003) contend, leads to more processing effort on the part of V-language speakers, and thus a tendency to leave out manner information altogether from their descriptions.

The work of Talmy and Slobin on motion events has motivated abundant research in different languages. Relevant Arabic research includes Saidi 2007; Al-
Qarni 2010; Abdulrahim 2013; AlMurshidi 2013; Zeddari 2016; and Alhamdan, Alenazi, and Maalej 2018.

Saidi (2007) studies motion events in Tunisian Arabic and concludes that it presents other strategies in the encoding of motion event other than those accounted for by Talmy’s typology. The author agrees with Slobin’s suggested revision of Talmy’s typology, considering it more useful to place languages on a cline of manner salience than to classify them into distinct typological categories. Alhamdan, Alenazi, and Maalej (2018) sets out from the assumption that Talmy’s typology did not do justice to morphology-rich languages such as Arabic, and is therefore too restrictive to account for motion components other than manner and path. The authors bring evidence from Modern Standard Arabic showing that Arabic includes verb patterns that are centered not only on the manner and path of motion, but also on the conceptual components of figure, ground, and cause of motion. Based on the evidence, the authors propose a typology of motion verbs along conflation patterns rather than lexicalization patterns. On the other hand, Al-Qarni (2010) and AlMurshidi (2013) do not question Talmy’s typology, both concluding that Arabic is dominantly V-framed although some S-framed patterns are also used.

Abdulrahim’s (2013) and Zeddari (2016) focus on more specific phenomena within the topic of motion events. Abdulrahim’s (2013) corpus-based study is limited to seven Arabic GO and COME verbs, but offers a comprehensive and empirically grounded treatment of these verbs by examining the contextual features that typically associate with each verb in actual usage. These contextual features include inflectional marking on the verb, syntactic frames hosting each verb, semantic properties of collocating lexical items, as well as the overall properties of the motion event construal. The study results highlight the idiosyncratic constructional properties that characterize the use of each verb in various physical and figurative motion event construals. Abdulrahim concludes that each of the seven verbs investigated appears to highlight a particular aspect of the conceptually complex deictic motion event. Zeddari (2016) focuses on prepositions involved in motion events in English and Arabic, arguing that while both languages have purely locative and directional prepositions, English has a class of ambiguous prepositions open to either interpretation.

Recent work on the expression of motion events reflects an interest in investigating shifts in the typological profiles of languages. Slobin (2017) suggests that patterns of language use that are predicted by the typological categorization of a language could undergo diachronic changes. In this research, we are interested in finding out whether a change has taken place in the attention to, and expression of, manner of motion in Arabic novels written within a span of one hundred years.

2. Manner of motion expression in Arabic
Since Arabic is classified as a V-framed language, the path of motion is characteristically expressed inside the verb, which requires that any nuances of manner be expressed by various types of subordinate constructions, referred to here as manner modifiers. In Example (1) below, the Arabic verb ṣa‘ad combines motion
and path, and the manner is expressed as a modifier (i.e. *jaryan*). Notice, too, that path surfaces in another element in the Arabic (i.e., the directional إلَى/*ILA:/ ‘to’.) All Arabic examples used below are taken from the study corpora. See Section 6.

(1) صعدت جريا إلى أعلى البناية

\[ \text{ṣaʿad -tu jaryan ila: ?aʿla: ?al- bināyati} \]

ascended I running to top of the building

Motion+Path Figure Manner Path Ground

‘I ascended running to the top of the building.’

However, the binary typology of motion encoding refers to typical linguistic practice and thus allows for variation in manner of motion encoding within a language (Talmy 2000). In a study of manner of motion verbs in Arabic, Al-Qarni concludes that both satellite-framed and verb-framed patterns are used in Arabic (2010, p. 175–6). According to Al-Qarni, speakers of Arabic tend to use patterns of S-languages to describe motion when the manner of motion is of concern to them. By contrast, patterns of V-languages are used when manner is not within the focus of the speaker’s attention. Arabic is thus classified as a V-framed language because the pattern with the path encoded in the verb is pervasive, rather than limited. In fact, there are several Arabic manner verbs that are used in an S-framed style, as in (2),

(2) هرول بسرعة شديدة نحو مريم

\[ \text{harwala bi- sur`atin shadi:datin naḥwa} \]

trotted(he) with speed high towards

Mariam

‘He trotted fast towards Mariam.’

Examples (1) and (2) above illustrate only two Arabic constructions of motion events. Other constructions also exist. In this research an attempt is made to identify the main linguistic constructions used in Arabic to encode motion events. This expression of manner is however linguistically constrained. For example, it is not possible in Arabic to associate one manner verb with a number of path components in one clause, as in the English example (3), from Slobin (2005). By contrast, Example (4) illustrates how motion events involving more than one path component are typically expressed in separate Arabic clauses.

(3) *I ran out the kitchen door, past the animal pens, towards Jasón’s house*

(4) خرجت أركض من باب المطبخ

\[ \text{Kharaj -tu ?arkuḍu min ba:bi ?al- maṭbak} \]

Exited I (I)running from door the

kitchen

وتجاوزت الحظائر

(1) صعدت جريا إلى أعلى البناية

(2) هرول بسرعة شديدة نحو مريم

(3) *I ran out the kitchen door, past the animal pens, towards Jasón’s house*

(4) خرجت أركض من باب المطبخ

وتجاوزت الحظائر
‘I exited the kitchen door, passed by the pens, and headed towards Jason’s house’

Another constraint relates to the size of lexicon of manner verbs in Arabic, which is relatively small, compared to English, for example. The English verbs *jump, leap, spring, bounce, skip, caper, gambol, cavort, vault* are all rendered into the synonymous *قفز /qafa* ‘jump’ and/or *وثب /wathaba* ‘leap’ in *The Oxford English–Arabic Dictionary of Current Usage*. A few verbs are rendered with manner specification, such as *hop*, rendered as *قفز على رجل واحدة /qafaza ‘ala: rijlin* ‘jump on one foot’ and *skip*, rendered as *وثب بخفة /wathaba bi-khiffa* ‘leap nimbly’. Given these linguistic constraints, manner specification is typically often left out for the reader to infer from the physical settings in which motion take place (Al-Qarni 2010; Maalej 2011).

3. Problem of the study
The studies of motion events in Arabic cited above, like most research in other languages, deal with synchronic variation and cross-linguistic differences. As mentioned above, recent work on the expression of motion events reflects an interest in investigating shifts in the typological profiles of languages. Slobin (2017) suggests that patterns of language use that are predicted by the typological categorization of a language could undergo diachronic changes. For example, in a study of Hebrew, Rappaport Hovav (2019) finds that Biblical Hebrew has properties of V-framed languages while Modern Hebrew texts have properties of S-framed languages. In Arabic, little synchronic and no diachronic research has been done and there is still much more room to explore. This study is a step in this direction.

4. Objectives and Questions of the Study
In this work, we are interested in investigating whether a diachronic change has occurred in Arabic narrative writing with respect to attention to manner, or manner salience, as well as to the linguistic expression of motion events. Particularly, the study examines (Q.1) whether there has been a change in novelists’ attention to manner of motion during the last one hundred years, and (Q.2) if so, what linguistic constructions or lexicalization patterns reflect this change?

5. Significance of the Study
The current work can contribute to the broad literature on motion events, particularly with relevance to a language that has not received sufficient attention in relevant research. Such research may be of value to researchers in typological
and contrastive linguistics studies. In addition, the evidence-based approach adopted here to the study of authentic texts most closely relates to corpus-based studies, which has been thriving for the last 25 years due to the credibility of results such studies could yield. The study may also be of importance to researchers and educators in translation studies, who could benefit from the study results in demonstrating English-Arabic similarities and differences relevant to the expression of motion meaning. Finally, through the data and analysis that this research will provide, future researchers may explore other relevant issues that this research suggests for further research.

6. Data and methods
The assumption that Arabic is a V-framed language whose speakers pay little attention to expressing manner of motion is studied by examining two datasets of Arabic novels, each of around one million words. The first dataset (1900s-Corpus) comprises novels written in the first half of the 20th century and the second (2000s-Corpus) includes novels written in the 21st century. Most of the novels included are available for free download at https://www.hindawi.org/books/. A few other novels available at other sites were searched online to avoid copyright infringements (See Appendix for a list of the novels).

The motion verbs sampled for investigation were divided into path-of-motion verbs (henceforth path verbs) and manner verbs, the latter subdivided into default manner verbs and expressive manner verbs, which are further subdivided into high-frequency and low-frequency expressive manner verbs; see Table 1. The verb مشى/mashā/ ‘walk’ received particular attention as it describes the default manner of motion (Slobin 1996). Selection of path verbs and high-frequency manner verbs was based on frequency as in Buckwalter and Parkinson (2011). The five low-frequency manner verbs were randomly selected from Dawood (2002), a book on the semantics of motion in Standard Arabic. Note that some manner verbs (e.g. زحف/zahafa/ ‘crawl’; تسلق/tasallaqa/ ‘climb’) also conflate path of motion. These are classified as manner verbs since manner is the main co-event of motion that is being investigated here.

The investigation comprised three corpus queries, using the Ctrl + f function to search the pdf files. In query No.1, both corpora were searched for the high-frequency manner verbs. The five low-frequency manner verbs were not included in this query as they are typically used as modifiers rather than as verbs. Identified instances were recorded and classified into four linguistic constructions, part of the qualitative contribution of this research. Based on the frequency of tokens of these manner verbs, we could reach a preliminary conclusion on attention to manner in the two investigated periods.
In query No.2, we are interested in instances of manner modification. The count comprised three categories: (1) verbal modifiers derived from the high-frequency manner verbs, e.g., /za:hiʃa:n/ ‘crawling’; (2) verbal modifiers derived from the five low-frequency manner verbs, e.g., /muθaɾaːnːiʃa:n/ ‘stumbling’; and (3) non-verbal modifiers, namely (i) forms of /khuːtə/ ‘steps’, such as /bi-khuːtə/ ‘with (e.g., steady) steps’ and حضورات /khuːtuːrə:/ ‘steps’; (ii) بقدم /bi-kadəmin/ ‘with (e.g., steady) feet’; (iii) الهويني /al-huwaynə:/ ‘slowly, leisurely’; (iv) ببطء /bi-biʔiːn/ ‘slowly’; and (v) forms derived from سرعة /səɾʕa:/ ‘speed/fastness/hurry’ such as مسرع /musɾiː/ ‘hurrying’ and بسرعة /bi-səɾʕa:/ ‘fast’. These specific non-verbal modifiers were selected because they were observed to occur frequently with the instances identified in the previous query. The tokens of the three groups of modifiers were compared across the two corpora and chi-square tests were used to determine significance.

In Query No.3, instances of the four path verbs with and without manner modification were counted and compared across the two corpora. Chi-square tests were used to determine any difference in manner salience.

The investigation focused on motion events that entail movement along a path and a displacement. Instances unaccounted for included those used metaphorically (Example 5), those expressing motion in place (Example 6), those with no path indicated, whether in the verb or elsewhere in the sentence (Example 7), and those denoting other senses of the verbs (Example 8).

<table>
<thead>
<tr>
<th>Expressive manner verbs</th>
<th>Default manner verb</th>
<th>Path Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low-frequency</strong></td>
<td><strong>High-frequency</strong></td>
<td></td>
</tr>
<tr>
<td>عرح /`araja/ ‘limp’</td>
<td>/wathaba/ ‘leap’</td>
<td>/kharaja/ ‘exit’</td>
</tr>
<tr>
<td>تترنح /taranna /hə/</td>
<td>/qafaza/ ‘jump’</td>
<td>دخ /dakhala/ ‘enter’</td>
</tr>
<tr>
<td>تعثر /taːθhara/ ‘stumble’</td>
<td>/tasallaqa/ ‘climb’</td>
<td>صص /saː adaː/ ‘ascend’</td>
</tr>
<tr>
<td>اختال /?ikhtaːla/ ‘swagger’</td>
<td>/tasallala/ ‘sneak’</td>
<td>تقدم /taqaddama/ ‘advance’</td>
</tr>
<tr>
<td>تهادى /tahaːdaː/ ‘waddle’</td>
<td>/harwala/ ‘trot’</td>
<td></td>
</tr>
<tr>
<td></td>
<td>/rakaːda/ ‘run’</td>
<td></td>
</tr>
<tr>
<td></td>
<td>/mashaː/ ‘walk’</td>
<td></td>
</tr>
</tbody>
</table>

In query No.2, we are interested in instances of manner modification. The count comprised three categories: (1) verbal modifiers derived from the high-frequency manner verbs, e.g., /za:hiʃa:n/ ‘crawling’; (2) verbal modifiers derived from the five low-frequency manner verbs, e.g., /muθaɾaːnːiʃa:n/ ‘stumbling’; and (3) non-verbal modifiers, namely (i) forms of /khuːtə/ ‘steps’, such as /bi-khuːtə/ ‘with (e.g., steady) steps’ and حضورات /khuːtuːrə:/ ‘steps’; (ii) بقدم /bi-kadəmin/ ‘with (e.g., steady) feet’; (iii) الهويني /al-huwaynə:/ ‘slowly, leisurely’; (iv) ببطء /bi-biʔiːn/ ‘slowly’; and (v) forms derived from سرعة /səɾʕa:/ ‘speed/fastness/hurry’ such as مسرع /musɾiː/ ‘hurrying’ and بسرعة /bi-səɾʕa:/ ‘fast’. These specific non-verbal modifiers were selected because they were observed to occur frequently with the instances identified in the previous query. The tokens of the three groups of modifiers were compared across the two corpora and chi-square tests were used to determine significance.

In Query No.3, instances of the four path verbs with and without manner modification were counted and compared across the two corpora. Chi-square tests were used to determine any difference in manner salience.

The investigation focused on motion events that entail movement along a path and a displacement. Instances unaccounted for included those used metaphorically (Example 5), those expressing motion in place (Example 6), those with no path indicated, whether in the verb or elsewhere in the sentence (Example 7), and those denoting other senses of the verbs (Example 8).

١٨٥

\[
\text{nasmātu } \text{baḥri } \text{tasallalu } \text{li-} \text{idhaːm iː } \text{breeses the sea creep (they) to}
\]
‘The sea breeze creeps into my bones.’

(6)  
\[
\text{wathaba jahdaru \textasciitilde \textasciitilde ala: qadamay -hi}
\]
\[\text{jumped (he) Jahdar on feet his}
\]
‘Jahdar jumped to his feet.’

(7)  
\[
yakh\textasciitilde -u: mukht\textasciitilde:lan fi: mashyatin \textasciitilde\textasciitilde askariyyatin \textasciitilde\textasciitilde sha:rimah steps he swaggering in gait military strict
\]
‘He steps swaggeringly in a strict military gait.’

(8)  
\[
wathaba \textasciitilde\textasciitilde alay- hi ghilma:nu -hu fa-qatal -u: -hu leapt (they) on him servants his and-
\]
\[\text{kill\textasciitilde:ed -him -they \textasciitilde\textasciitilde qas\textasciitilde:ri -hi fi: palace his}
\]
‘His servants took him by surprise and killed him in his palace.’

7. Results and discussion

7.1 Query No.1: High-frequency manner verbs

7.1.1 Linguistic constructions

Based on the first query, involving high-frequency manner verbs, the following four linguistic constructions were identified:

**Construction 1:** In this construction, the manner of motion is expressed within the verb and the path/ground is expressed in a phrase. In Example (9), the verb /raka\textasciitilde:da/ encodes both the event of moving and the co-event of manner, while the path component is encoded in the prepositional phrase, /\textasciitilde ila: shajarati tu:tin qari:\textasciitilde:batin/. In Example (10), the verb /yaqfizi\textasciitilde:/ has both motion and manner conflated, with the path encoded in the complex prepositional phrase denoting the source and goal of motion, /l\textasciitilde min \textasciitilde\textasciitilde\textasciitilde\textasciitilde:\textasciitilde\textasciitilde: al-ku:\textasciitilde:kh\textasciitilde:\textasciitilde la: shajarati mawzin \textasciitilde\textasciitilde imla:qal/.

(9)  
\[
raka\textasciitilde:da \textasciitilde ila: shajarati tu:tin qari:\textasciitilde:batin
\]
\[\text{ran (he) to a tree berry nearby}
\]
‘He ran to a berry tree nearby.’

(10)  
\[
cal\textasciitilde la: h\textasciitilde\textasciitilde la: yaqfizi\textasciitilde:la: shajarati mawzin \textasciitilde\textasciitilde imla:qal
\]
‘He said to the fruit tree near the donkeys.’
He told her as he jumped from the top of the hut onto a giant banana tree.’

**Construction 2:** This construction differs from Construction 1 in that path is expressed in a clause, resulting in a complex or compound sentence. In Example (11), the path of motion is expressed by the subordinate clause /\textit{wa-idha: huwa bi-ghurfat\text{\text-release}}/\textit{h}, rendering the whole structure as a complex sentence. Example (12) is a compound sentence as the path is encoded in a coordinated clause, /\textit{wa-dakhalna: al-ghurfa}/\textit{.}

\begin{align*}
\text{(11) } & \text{بلحظة مجنونة منه قفز وإذا هو بغرفتها} \\
& \text{\textit{bih-dhatin} majnu:natin \textit{min} \textit{-hu qafaza} wa \textit{idha:} } \\
& \text{in moment crazy from him jumped(he) and if } \\
& \text{huwa bi- \textit{ghurfat} -iha he in room her } \\
& \text{‘In a crazy moment he jumped to find himself in her room.’}
\end{align*}

\begin{align*}
\text{(12) } & \text{مشي خلفه ودخلنا الغرفة} \\
& \text{\textit{mashay} \textit{-tu khalfa \textit{-hu wa dakhal} -na: al-} } \\
& \text{walked I behind -him and entered we the room } \\
& \text{‘I walked after him and we entered the room.’}
\end{align*}

**Construction 3:** Here, manner is expressed in the verb and further enhanced in an associated modifying phrase. The path is also realized by a phrase, as in Construction 1. See Example (13), where the verb /\textit{harwala}/\textit{ conflates the event of moving and the co-event of manner. The prepositional phrase, /\textit{bi-sur\text{\text-release}atin shadi:datin}/\textit{, further specifies the manner of motion.}

\begin{align*}
\text{(13) } & \text{هرول بسرعة شديدة نحو مريم} \\
& \text{\textit{harwala} \textit{bi-} \textit{sur\text{\text-release}atin} \textit{shadi:datin na\text{\text-release}wa} } \\
& \text{Mariam trotted(he) with speed high towards Mariam}
\end{align*}
‘He trotted fast towards Mariam.’

**Construction 4:** This construction, like Construction 2, is a clause complex, but the manner of motion is further specified in a modifying phrase, like Construction 3. In Example (14), manner is expressed not only in the verb, /zahafal/, but further enhanced in the prepositional phrase, /t’ala: qadamayhi wa-rijlayhi/.

(14) زحف على قدميه ورجليه إلى أن بلغ الحائط
zaḥafa t’ala: qadamay- hi wa- rijlay- hi
?ila: an balagha al- ḥa: i ṭ
crawled (he) on feet his and legs his
until reached(he) the wall

‘He crawled on his feet and legs until he reached the wall.’

**7.1.2 Frequencies of high-frequency manner verbs**

We now need to have a quantitative look at the results. Looking at Table 2, we can see a big difference in the total citations of constructions with manner verbs in the two corpora: the 2000s-Corpus has about half the number of the citations in the 1900s-Corpus, which may be indicative of a change towards less manner salience in contemporary novels. However, such a conclusion is at best hasty and could only be verified if the search included each and every Arabic motion verb, manner and non-manner, but this would be a very difficult and time-consuming task.

Table 2: Distribution of tokens across construction

<table>
<thead>
<tr>
<th>Construction</th>
<th>No. and percentage of tokens</th>
<th>Chi-square statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1900</td>
<td>2000</td>
</tr>
<tr>
<td>Construction No.1</td>
<td>142 (64 percent)</td>
<td>91 (69 percent)</td>
</tr>
<tr>
<td>Construction No.2</td>
<td>43 (19 percent)</td>
<td>10 (7 percent)</td>
</tr>
<tr>
<td>Construction No.3</td>
<td>30 (14 percent)</td>
<td>26 (20 percent)</td>
</tr>
<tr>
<td>Construction No.4</td>
<td>6 (3 percent)</td>
<td>5 (4 percent)</td>
</tr>
<tr>
<td>Total</td>
<td>221 (100 percent)</td>
<td>132 (100 percent)</td>
</tr>
</tbody>
</table>

Nevertheless, we can still get suggestive results if we consider distributions. One interesting result can be obtained from the data in Table 2 by carrying out chi-square tests of the distribution of constructions across the two time periods. The statistics in the last column, obtained by comparing the tokens of each construction to the total tokens, show that novelists in both periods seem to make roughly equal use of three of the four constructions. The significant decrease in the use of Construction No.2 relates to the second research question; that is, to changes in the linguistic constructions used to encode motion events. As illustrated above, Constructions No.2 and No.4 are compound/complex sentences, with the path encoded outside the nuclear clause, in a coordinated/subordinated clause rather than in a nuclear phrase. The counts in Table 2 show that Construction No.2 accounts for 19 percent of the total citations in the 1900s-Corpus, but only 7 percent in the
2000s-Corpus, while Construction No.4 is rare in both corpora. Based on this, it may be suggested that contemporary Arab novelists tend to avoid compound and complex constructions, perhaps in favour of compact simple clauses. This conclusion, given the insignificant difference in the use of the simple clause constructions (Constructions No.1 and No.3), is tentative and can only be tested by using larger corpora.

For manner salience, we can compare tokens without manner modification (Constructions 1 and 2) with tokens with manner modification (Constructions 3 and 4). We will first compare the frequencies of the default manner verb with those of the more expressive manner verbs. See Table 3.

Table 3: Tokens of walk and more expressive manner verbs

<table>
<thead>
<tr>
<th>Manner verb type</th>
<th>No. and percentage of tokens</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1900</td>
</tr>
<tr>
<td>Default manner: ‘walk’</td>
<td>157 (71 percent)</td>
</tr>
<tr>
<td>More expressive manner</td>
<td>64 (29 percent)</td>
</tr>
<tr>
<td>Total</td>
<td>221</td>
</tr>
</tbody>
</table>

Table 3 shows that contemporary novelists make less use of the default manner verb. A chi-square test of walk tokens (1st row) against the total number of tokens (3rd row) returned a result of \(X^2 = 42.829; p < 0.05\). This statistically significant difference indicates that contemporary novelists make notably less use of the default manner verb. This seems to occur in favour of more expressive manner verbs, as attested by the rise in the percentage of those verbs, which is also statistically significant; a chi-square test of the tokens of the expressive manner verbs (2nd row) against the total number of citations (3rd row) returned the same result of \(X^2 = 42.829; p < 0.05\). Both changes suggest more attention to manner in the 2000s-Corpus.

This last conclusion could be further corroborated by comparing the tokens with manner modification of the default manner verb and the more expressive manner verbs; i.e. tokens of Constructions 3 and 4 against the total tokens. See Table 4.
Table 4 shows the total and modified tokens of *walk* and the more expressive manner verbs in both corpora. A chi-square test of independence comparing *walk* tokens with manner modification with total *walk* tokens (i.e. 24 out of 157 in the 1900 corpus and 16 out of 46 in the 2000s-Corpus) returned a result of $X^2 = 7.358; p < 0.05$. This means that there is a significant difference towards more manner salience in the 2000s-Corpus, which further supports the conclusion drawn from Table 3 above. On the other hand, the test involving the more expressive manner verbs returned a statistical value of 0.000; $p < 0.05$, which is not statistically significant. What this means is that although modern novelists make slightly heavier use of expressive manner verbs (86 vs. 64), they tend to equally rely on further manner modification with such verbs. For further corroboration, in the next subsection we look at manner modification using a different procedure, as described in the methods section above.

7.2 Query No.2: Manner modifiers

To further test the conclusion above with respect to the change towards more manner salience as realized by manner modification, we conducted a second query involving three groups of manner modifying phrases:

(1) Verbal manner modifiers derived from the high-frequency verbs (e.g., زا:حفا /za:ḥifan/ ‘crawling’)

(2) Verbal manner modifiers derived from the low-frequency verbs (e.g., مترنحا /mutaranniḥan/ ‘stumbling’)

(3) Non-verbal manner modifiers (e.g., الهوينى /?al-huwayna:/ ‘slowly, leisurely’)

The results are presented in Table 5.

Table 5: Tokens of manner modifiers

<table>
<thead>
<tr>
<th></th>
<th>1900</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbal manner modifiers (derived from high-frequency verbs)</td>
<td>21</td>
<td>15</td>
</tr>
<tr>
<td>Verbal manner modifiers (derived from low-frequency verbs)</td>
<td>17</td>
<td>28</td>
</tr>
<tr>
<td>Non-verbal manner modifiers</td>
<td>43</td>
<td>104</td>
</tr>
<tr>
<td>Total</td>
<td>81</td>
<td>147</td>
</tr>
</tbody>
</table>

Table 5 shows that the total tokens of manner modifiers in the 2000s-Corpus are about double those in the 1900s-Corpus. A chi-square test of independence, using the values shown in Table 5 as a 2 X 3 contingency table, returned a result of
X^2 = 10.801; p < 0.05. This is another clear indication that current novelists are more inclined to enhancing motion events with further manner specification. Considering the three categories of modifiers individually, we can see that modern novelists make significantly lighter use of modifiers derived from the high-frequency manner verbs (X^2 = 8.561), equal use of modifiers derived from the low-frequency manner verbs (X^2 = 0.031), but a significantly heavier use of non-verbal modifiers (X^2 = 6.362). One suggestion for further research can be to determine whether this noticeable rise in non-verbal modifiers is a result of language contact.

Another observation worth considering in the context of modification relates to the type of modified verbs. We have already seen, from Table 4 above, that contemporary novels make significantly higher use of modification with the default manner verb and roughly equal use of modification with expressive manner verbs. Here, our query of the three categories of modifiers returned an interesting result with respect to modification with path verbs. As shown in Table 6 below, the queried modifiers were found to occur with path verbs at percentages of 58 percent and 78 percent in the 1900s-Corpus and the 2000s-Corpus, respectively. A chi-square test of the modified tokens against the total citations (47 out of 81 and 115 out of 147) gave a result of X^2 = 9.408; p < 0.05, meaning that contemporary novelists are more inclined to adding manner specification to path verbs.

Table 6: Tokens of modifiers

<table>
<thead>
<tr>
<th></th>
<th>1900</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Modifiers used with path verbs</strong></td>
<td>47 (58 percent)</td>
<td>115 (78 percent)</td>
</tr>
<tr>
<td><strong>Total modifiers</strong></td>
<td>81</td>
<td>147</td>
</tr>
</tbody>
</table>

The results so far with respect to manner modification across verb types are in agreement with Slobin et al. (2014), who conclude that V-framed language speakers use a higher proportion of non-expressive (e.g. walk) and non-manner (e.g. enter, leave) verbs and therefore tend to add additional modifying information when manner is called for. The third query, in the following section about path verbs, further supports this last result.

### 7.3 Query No. 3: Path of motion verbs

This query involved four high-frequency path verbs. Table 7 shows the number of tokens with manner modification out of the total number of occurrences of each verb in the two corpora. It is clear from the total citations of the four verbs in the two corpora that contemporary Arab novelists, compared with those of the early 1900s, seem to rely less on path verbs, given the difference in the total citations; i.e. 692 vs. 442, but more on manner modification. This is attested by the result of a chi-square test conducted to compare total modified tokens (46 and 45) to the total number of citations (692 and 442): X^2 = 4.09679; p < 0.05.

Table 7: Tokens of path verbs with manner modification

<table>
<thead>
<tr>
<th></th>
<th>1900</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total modifiers</strong></td>
<td>81</td>
<td>147</td>
</tr>
</tbody>
</table>
It is worth mentioning that the occurrences of path verbs with manner modification could be classed in two main types of constructions that are mainly different in the grammatical realization of the path component, which is either a phrase or a clause. The two constructions identified here for path verbs, together with the four constructions for manner verbs identified in Section 7.1.1, add to the qualitative contribution of this research, which answers the second research question. Quantitatively, most of the citations with path verbs in both corpora belong to Construction 5, with the path realized in a phrase (See Example 15). Under Construction 6, where path is realized in a subordinate clause (See Example 16), only 5 instances were cited in the 1900s-Corpus, and 2 instances in the 2000s-Corpus.

(15) خرجت أمل بخطوات رشيقة واثقة على المنصة
kharaj -at Amal bi- khutuwa:tin rashi:qatin wa:thiqatin ‘ala :manasah
exitedshe Amal with steps brisk confident on the stage
‘Amal went onto the stage with confident brisk steps.’

(16) صعدت السلم بتكاسل حتى وصلت إلى شقتي
sa‘ad -tu bi- takasa:sulun ha:ta: wasal -tu li- shaqqa
climbed I with laziness until reached I to apartment my
‘I ascended the stairs lazily until I reached my apartment.’

7.4 Other lexicalizations of manner outside the verb
The three queries returned tokens of manner of motion lexicalized in constructions different from those identified above. These are mentioned here as a further qualitative contribution and perhaps as a suggested topic for future research. One such construction includes tokens with reference to manner lexicalized in descriptions relating to the physical and/or psychological state of the moving entity, as in (17) and (18).

(17) تتقدم نحوه راقصة مترنحة
tatagaddamu nahwa -hu ra:qi:atun mutaranniha
advances (she) toward him dancer staggering
‘A staggering dancer moves towards him.’

(18) نزلت الدرج أجري بقدمي العرجاء
descended I the stairs (I)running with foot my
the limping
‘I went down the stairs running with my limping leg.’

In example (17) manner of motion is realized by an adjective (staggering) describing the figure (dancer). In (18), an adjective (limping) is also used but here it modifies the leg of the moving entity. In another instance, it is the physical description of the ground (spiral staircase) that expresses the manner of motion, as in (19).

(19) صعدت الدرج الحلزوني الذي يؤدي إلى طابق فوق المطعم
ascended I the stairs the spiral which leads (it)
to floor
fawqa ?al- maṭ'am
above the restaurant
‘I went up the spiral staircase which lead to a floor above the restaurant.’

8. Conclusion
This research was a corpus-based diachronic investigation of manner of motion in Arabic novels written in the 21st century as compared to novels written in the first half of the 20th century. Particularly, we asked whether there has been a change in novelists’ attention to manner of motion during the last one hundred years, and if so, what linguistic constructions reflect this change. To this end, corpus queries of several motion verbs were conducted, including the default walk, high- and low-frequency expressive manner verbs, and path verbs, in addition to three types of manner modifiers.

The analysis revealed that a significant change towards more manner salience has taken place in contemporary Arabic novels. Concretely, this is manifested through (1) less use of the default walk in favour of more expressive manner verbs; (2) A stronger inclination to enhancing motion events with further manner specification, most noticeably with walk and non-manner verbs; (3) a significantly heavier use of non-verbal modifiers; and (4) less reliance on path verbs but more on manner modification with such verbs. With respect to the linguistic constructions of motion events, the sole noticeable difference was a significant decrease in expressing path in a clause, as attested by the counts of Constructions 2, 4 and 6.
Given scope and time limitations, as well as the relatively small dataset size, further research could make use of larger corpora and query more manner and non-manner verbs to produce more generalizable results. Moreover, future research could investigate other means for encoding manner outside the main verb, or even beyond the clause. As mentioned above, manner specification in Arabic writings is often left out for the reader to infer from the physical settings in which motion takes place. In other cases, reference to manner could be found in descriptions relating to the physical and/or psychological state of the moving entity.

As suggested in Section 7 above, further research can be done to determine whether the noticeable rise in non-verbal modifiers is a result of language contact, possibly from English. In terms of attention to manner, research (perhaps from a cognitive linguistics perspective, particularly in terms of cognitive processing) is also needed to determine whether the shift from complex constructions to simple clauses leads to less manner salience. From a cognitive linguistics perspective, the more explicit variant is generally represented by the bulkier element or construction” (Rohdenburg 1996, cited in Hoffman 2005: 102).

Another potentially interesting area of research could be an investigation of factors that may allow or cause a diachronic change in manner salience or even in the introduction into Arabic of any S-framed patterns. According to Iacobini and Fagard (2011), a diachronic approach to motion events could allow the identification of critical junctures in the synchronic interaction between different encoding patterns and ultimately finding explanations for typological changes.

Research can also address linguistic realization of motion in different registers, such as narratives of tours and journeys. Matthiessen and Kashyap (2014) and Kashyap and Matthiessen (2017, 2018) explored a range of English texts from different registers and found that the construal of motion is sensitive to registerial variation (cf., Kashyap and Matthiessen, 2017, p. 67). It was found, for example, that verbs that conflate manner of motion are frequently used in recreating contexts (e.g. folk tales, short stories, stage plays) and reporting contexts (e.g. historical accounts) (Kashyap and Matthiessen, 2018).
References


Rappaport Hovav, Malka. (2019). ‘The change in Hebrew from a V-framed to an S-framed language’. In Edit Doron, Malka Rappaport Hovav, Yael Reshef and Moshe Taube (eds.), Language Contact, Continuity and Change in the Genesis


### Appendix: List of novels used

<table>
<thead>
<tr>
<th>2000s-Corpus</th>
<th>1900s-Corpus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author</td>
<td>Title</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Sarrooif, Jacob</td>
<td>Am: [The prince of Lebanon]</td>
</tr>
<tr>
<td>Manfuluti, Mustafa Lutfi</td>
<td>Fi: sabi: [For the sake of the crown]</td>
</tr>
<tr>
<td>Fareed, Hisham</td>
<td>Ghadarto: Fafa: [I left you, don’t wither away]</td>
</tr>
<tr>
<td>AbdulSamad, Hajar</td>
<td>Habibi: da: [My lover is an ISIS member]</td>
</tr>
</tbody>
</table>

236